IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

1. (currently amended) A ~~Non-human~~ transgenic mouse comprising disruption of the gene or genes encoding ~~animal having altered~~ melusin, wherein said mouse, after being subjected to a hypertensive condition, develops at least a phenotype selected from the group consisting of impaired heart hypertrophy, heart dilation, and heart failure ~~expression~~.

Claims 2-7 (canceled)

8. (currently amended) The ~~Non-human~~ transgenic mouse ~~animal~~ according to claim [[7]] 1, characterized in that said hypertensive condition is induced ~~determined~~ by surgical operation.

9. (currently amended) The ~~Non-human~~ transgenic mouse ~~animal~~ according to claim 8, characterized in that said surgical operation consists of [[in]] surgical constriction of the transverse aorta.

10. (currently amended) The ~~Non-human~~ transgenic mouse ~~animal~~ according to claim [[7]] 1, characterized in that said hypertensive condition is induced ~~determined~~ by pharmacological treatment~~, preferably with hypertensive drugs~~.

11. (currently amended) The ~~Non-human~~ transgenic mouse ~~animal~~ according to claim [[7]] 1, characterized in that said hypertensive condition is induced ~~determined~~ by high sodium diet.

12. (currently amended) The ~~Non-human~~ transgenic mouse ~~animal~~ according to claim [[3]] 1, wherein said mouse ~~animal~~ develops at least impaired heart hypertrophy.

13. (currently amended) The ~~Non-human~~ transgenic mouse ~~animal~~ according to claim [[3]] 1, wherein said mouse ~~animal~~ develops at least heart dilation.

14. (currently amended) The ~~Non-human~~ transgenic mouse ~~animal~~ according to claim [[3]] 1, wherein said mouse ~~animal~~ develops at least heart failure.

15. (currently amended) The ~~Non-human~~ transgenic mouse ~~animal~~ according to claim [[1]] 10, wherein said pharmacological treatment is administration of hypertensive drugs ~~animal is a mammal~~.

Claim 16 (canceled)

17. (currently amended) The ~~Non-human~~ transgenic mouse ~~animal~~ according to claim 16, wherein said mouse belongs to the 129SV, C57Bl or 129SVxC57Bl strain.

18. (currently amended) A method ~~Method~~ of screening compounds for pharmacological activity, said method comprising ~~the steps of~~:

i) administering compounds to the ~~a non-human~~ transgenic mouse ~~animal~~ according to claim 1 and

ii) selecting a compound that is pharmacologically active in the prevention and/or treatment of heart failure.

19. (currently amended) A method ~~Method~~ of studying a heart pathology ~~using a non-human transgenic animal according to claim 1~~, said method comprising ~~the steps of~~:

i) exposing the ~~a non-human~~ transgenic mouse ~~animal~~ according to claim 1 to hypertensive conditions and

ii) studying development of a heart pathology in said mouse ~~animal~~, wherein said heart pathology is selected from the group consisting of heart failure, congestive heart failure, dilated cardiomyopathy, hypertensive cardiomyopathy, hypertrophic cardiomyopathy, and heart infarct.

20. (currently amended) Cells obtained ~~derivable~~ from the ~~non-human~~ transgenic mouse ~~animal~~ according to claim 1 ~~and having altered melusin expression~~.

Claim 21-22 (canceled)

23. (currently amended) A method ~~Method~~ of screening compounds for pharmacological activity, said method comprising ~~the steps of~~:

i) screening compounds against cells according to claim 20 and

ii) selecting a compound a compound that is pharmacologically active in the prevention and/or treatment of heart failure.

24. (currently amended) A method of producing a transgenic mouse comprising disruption of the gene encoding melusin, wherein said disruption inhibits expression of wild type melusin, ~~Method for the preparation of a non-human transgenic animal according to claim 1~~ said method comprising ~~the steps of~~:

(a) disrupting by homologous recombination the gene encoding melusin in a mouse embryonic stem (ES) cell,

(b) injecting said ES cell into a mouse blastocyst,

(c) implanting said blastocyst into the uterus of a foster mother mouse to generate a chimeric embryo,

(d) obtaining a chimeric mouse which has germ line cells comprising a disrupted gene encoding melusin from said chimeric embryo,

(e) breeding said chimeric mouse with a different mouse strain, and

(f) selecting a transgenic mouse comprising disruption of the gene encoding melusin.

~~i) preparing a non-human transgenic parent animal carrying an inactivated melusin allele;~~

~~ii) breeding the parent transgenic animal with a non transgenic animal; and~~

~~iii) selecting transgenic animals heterogyzote for the melusin gene mutation.~~

25. (currently amended) The method ~~Method~~ according to claim 24, further comprising ~~the step of iv)~~ breeding said transgenic mice and selecting a homozygous mouse comprising disrupted genes encoding melusin ~~the heterozygote transgenic animals to select homozygote transgenic animals for the melusin gene mutation~~.

Claims 26-42 (canceled)